

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-3. (Canceled)

4. (Previously Presented) The method according to claim 31, wherein the resulting microparticles have an average particle diameter of 0.01 μm to 150 μm .

5. (Previously Presented) The method according to claim 31, wherein the resulting microparticle is a drug carrier.

6. (Previously Presented) The method according to claim 31, wherein the resulting microparticle is a sustained-release drug carrier.

7. (Currently Amended) The method according to claim 31, wherein the dilute solution before the crosslinking reaction contains a drug, and the drug is held in the microparticles obtained after the crosslinking reaction.

8. (Original) The method according to claim 7, wherein the crosslinking reaction does not cause drug denaturation even in the presence of the drug.

9-10. (Canceled)

11. (Withdrawn) The method according to claim 1, wherein the crosslinking reaction is a reaction in which

crosslinkages are formed by reaction between hydrazide group and an activated carboxylic acid ester.

12-19. (Canceled)

20. (Withdrawn) The microparticle according to claim 31, wherein the crosslinkable functional group is a mercapto group, and the crosslinking reaction is a reaction in which crosslinkages are formed by disulfide formation.

21. (Canceled)

22. (Withdrawn) The microparticle according to claim 31, wherein the crosslinking reaction is a reaction in which crosslinkages are formed by reaction between a hydrazide group and an activated carboxylic acid ester.

23. (Canceled)

24. (Previously Presented) The method according to claim 4, wherein the resulting microparticle is a drug carrier.

25. (Previously Presented) The method according to claim 24, wherein the resulting microparticle is a sustained-release drug carrier.

26. (Previously Presented) the method according to claim 25, wherein the dilute solution before the crosslinking reaction contains a drug, and the drug is held in the microparticles obtained after the crosslinking reaction.

27. (Previously Presented) The method according to claim 26, wherein the crosslinking reaction does not cause drug denaturation even in the presence of the drug.

28-30. (Canceled)

31. (Currently Amended) A method for preparing crosslinked polysaccharide microparticles, which comprises the following steps:

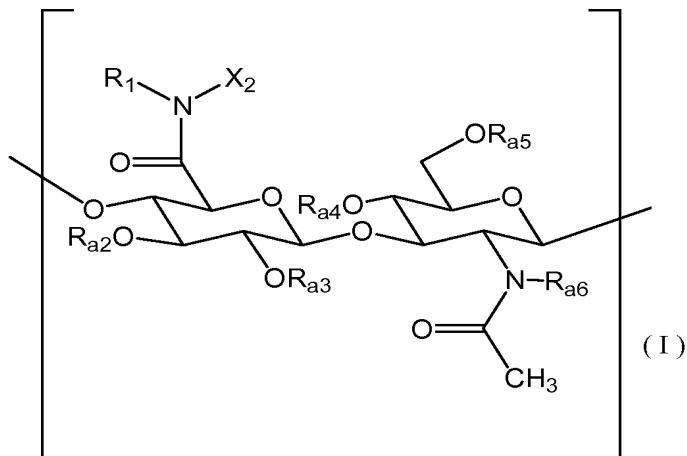
a) preparing a dilute solution containing (1) a polysaccharide derivative having at least one crosslinkable functional group in a range of 0.1 to 5% (w/v) and (2) a crosslinking agent;

b) dispersing the solution by spraying to form microparticulate droplets; and

c) concentrating the solution contained in the droplets to facilitate a crosslinking addition reaction of the polysaccharide derivative between a mercapto group and an unsaturated C-C bond;

wherein steps b) and c) are carried out in a spray drying procedure;

wherein the polysaccharide derivative is a hyaluronic acid derivative comprising at least one repeating unit represented by Formula (I);



wherein X_2 represents $-Y_1-Q_1-Y_2-N(-R_2)-Y_3-Q_2-SH$, $-N(-R_2)-Y_3-Q_2-SH$, $-NHCO-(CH_2)_4-CONH-NH-C(=NH)-(CH_2)_3-SH$, $-(CH_2)_2-NH-C(=NH)-(CH_2)_3-SH$, or $-(CH_2)_2-O-(CH_2)_2-O-(CH_2)_2-NH-C(=NH)-(CH_2)_3-SH$,

R_1 represents a hydrogen atom, a linear or branched C_{1-10} alkyl group, a linear or branched C_{1-10} hydroxyalkyl group, a polyalkylene oxide group, a polypeptide group or a polyester group,

R_{a2} , R_{a3} , R_{a4} , R_{a5} and R_{a6} each independently represent a hydrogen atom, a linear or branched C_{1-6} alkyl group, a linear or branched C_{2-6} alkenyl group, a linear or branched C_{2-6} alkynyl group, a linear or branched C_{1-16} alkylcarbonyl group, a linear or branched C_{2-6} alkenylcarbonyl group, a linear or branched C_{2-6} alkynylcarbonyl group or $-SO_2OH$,

Y_1 represents a single bond, $-N(-R_3)CO-$, $-N(-R_3)-$, $-CO-$ or $-CH_2CO-$,

Y_2 represents a single bond, $-\text{CON}(-\text{R}_4)-$ or $-\text{N}(-\text{R}_4)-$,

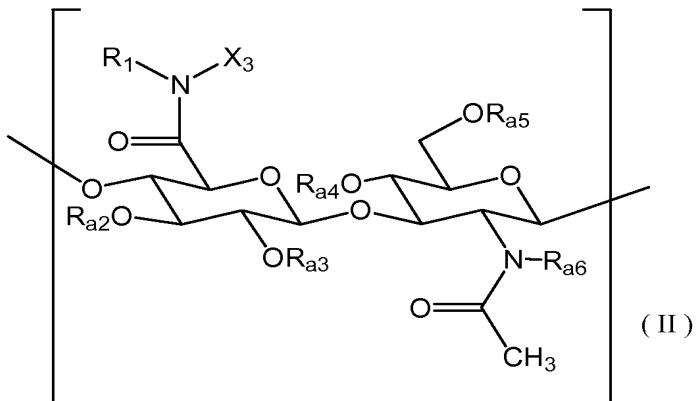
Q_1 represents a linear or branched C_{1-10} alkylene group, a linear or branched C_{1-10} hydroxyalkylene group, a polyalkylene oxide group, a polypeptide group or a polyester group, R_2 , R_3 and R_4 each independently represent a hydrogen atom, a linear or branched C_{1-10} alkyl group, a linear or branched C_{1-10} hydroxyalkyl group, a polyalkylene oxide group, a polypeptide group or a polyester group,

Y_3 represents a single bond, $-\text{CO}-$, $-\text{CO}_2-$, $-\text{CH}_2-\text{CH}(\text{OH})-$ or $-\text{CONH}-$, and

Q_2 represents a linear or branched C_{1-10} alkylene group, a linear or branched C_{1-10} hydroxyalkylene group, a polyalkylene oxide group, a polypeptide group or a polyester group,

and the crosslinking agent is a compound having two or more unsaturated C-C bond-containing groups; or

the polysaccharide derivative is a hyaluronic acid derivative comprising at least one repeating unit represent by Formula (II):



wherein X_3 represents $-Y_1-Q_1-Y_2-N(-R_2)-Y_3-Q_4$ or $-N(-R_2)-Y_3-Q_4$,

R_1 represents a hydrogen atom, a linear or branched C_{1-10} alkyl group, a linear or branched C_{1-10} hydroxyalkyl group, a polyalkylene oxide group, a polypeptide group or a polyester group,

R_{a2} , R_{a3} , R_{a4} , R_{a5} and R_{a6} each independently represent a hydrogen atom, a linear or branched C_{1-6} alkyl group, a linear or branched C_{2-6} alkenyl group, a linear or branched C_{2-6} alkynyl group, a linear or branched C_{1-6} alkylcarbonyl group, a linear or branched C_{2-6} alkenylcarbonyl group, a linear or branched C_{2-6} alkynylcarbonyl group or $-SO_2OH$,

Y_1 represents a single bond, $-N(-R_3)CO-$, $-N(-R_3)-$, $-CO-$ or $-CH_2CO-$,

Y_2 represents a single bond, $-CON(-R_4)-$ or $-N(-R_4)-$,

Y_3 represents a single bond, $-CO-$ or $-CH_2CO-$,

Q_1 represents a linear or branched C_{1-10} alkylene group, a linear or branched C_{1-10} hydroxyalkylene group, a polyalkylene oxide group, a polypeptide group or a polyester group,

R_2 , R_3 and R_4 each independently represent a hydrogen atom, a linear or branched C_{1-10} alkyl group, a linear or branched C_{1-10} hydroxyalkyl group, a polyalkylene oxide group, a polypeptide group or a polyester group,

Q_4 represents a linear or branched C_{2-10} alkenyl group, a linear or branched C_{2-10} alkynyl group, and the crosslinking agent is a compound having two or more mercapto groups; and

wherein the method is performed so as to crosslink the hyauronic acid derivative during concentration and drying.

32. (Previously Presented) The method according to claim 5, wherein the crosslinked polysaccharide microparticles are injectable.

33. (Previously Presented) The method according to claim 5, wherein the drug is a protein.

34. (Previously Presented) The method according to claim 6, wherein the sustained release period of the carrier is 24 hours or more.

35. (Previously Presented) The method according to claim 6, wherein the sustained release period of the carrier is 5 days or more.

36. (Previously Presented) The method according to claim 6, wherein the drug is released upon enzymatic digestion.